DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14, 16 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the discontinuous phase". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scarborough et al (5338345), as evidenced by ICSC 1380.

Scarborough, table 1 composition 4, teaches a water based water repellent coating comprising water, paraffinic wax and a solvent. Scarborough, col. 6 lines 37-41, teaches the solvent can be naphtha which is a hydrocarbon oil. Scarborough, col. 5 lines 45-53, teaches the paraffin waxes generally contain about 14 different straight chain and branched hydrocarbons ranging from C18H38 to C32H66.having melting

points in the range of 50-70oC. These waxes are saturated aliphatic hydrocarbons with the general formula CnH2n.

Although Scarborough teaches using naphtha as an organic solvent, it does not teach the properties of naphtha.

Naptha, ICSC 1380, teaches naphtha has a melting point at 0oC which means that naphtha is liquid a room temperature. Further, ICSC 1380, teaches naphtha is a mixture of C9-C13 napthenes. Naphtha is of napthenic origin with the general formula CnH2n.

Further, by providing the solvent as naptha, a hydrocarbon oil of naphthenic origin of the claimed general formula and that is a liquid at room temperature is obviously provided.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scarborough et al (5338345) as evidenced by ICSC 1380 as applied to claim 1 and further in view of Nielsen (5100697).

Scarborough, table 1 composition 4, teaches a water based water repellent coating comprising water, paraffinic wax and a solvent. Scarborough, col. 6 lines 37-41, teaches the solvent can be naphtha which is a hydrocarbon oil. Scarborough, col. 5 lines 45-53, teaches the paraffin waxes generally contain about 14 different straight chain and branched hydrocarbons ranging from C18H38 to C32H66.having melting points in the range of 50-70oC. These waxes are saturated aliphatic hydrocarbons with the general formula CnH2n.

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Further, by providing the solvent as naptha, a hydrocarbon oil of naphthenic origin of the claimed general formula and is a liquid at room temperature is obviously provided.

Although Scarborough in view of ICSC 1380 teaches using a water based water repellent coating comprising water, paraffinic wax and a solvent such as naphtha, neither teaches using an oil formed from an ester resulting from a reaction of a fatty acid and an alcohol.

Niesel teaches an oil in water emulsion comprising esters of aliphatic carboxylic acid with a mono or dihydric alcohol.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute some or all of ester as taught by Niesel in for the hydrocarbon oil solvent as taught by Scarborough because Niesel, col. 8 lines 5-10, teaches esters of carboxylic acids are much more biodegradable and less toxic than mineral oils such as naphtha. Further, Niesel, col. 9 lines 9-15, teaches the esters maybe derived from an aliphatic monocarboxylic acid of the formula R4COOH in which R4 is a straight or branched saturated or unsaturated hydrocarbyl group of 1-30 carbon atoms.

Although Scarborough teaches a water based water repellant, Scarborough does not teach the repellant to retain water during the setting of concrete.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the Scarborough composition would be able to retain water because if the composition is waterproof it would mean that no water could seek through this layer.

Therefore, if no water could seep through that would be no water would be able to leave therefore retain the water in the composition.

Regarding claims 2 and 3, Scarborough, col. 5 lines 37-40, teaches the water repellant composition can include natural and synthetic waxes. Scarborough, col. 5 lines 45-53, teaches the paraffin waxes generally contain about 14 different straight chain and branched hydrocarbons ranging from C18H38 to C32H66.having melting points in the range of 50-70oC. These waxes are saturated aliphatic hydrocarbons with the general formula CnH2n.

Regarding claim 4, the density of the paraffin wax is an inherent characteristic and therefore does not further limit the claim.

Regarding claim 5, ICSC 1380, teaches naphtha is a mixture of C9-C13 napthenes. Naphtha is of napthenic origin with the general formula CnH2n.

Regarding claim 6, ICSC 1380, teaches naphtha to have a density of .76-.79 g/cm^3.

It would have been obvious to one of ordinary skill in the art at the time of the invention by increasing the amount of C9 napthenes present. Therefore, more napthenes would be present in each cm^3. This would increase improve the dispersity of the wax in the solvent.

Regarding claims 8 and 9, Niesel, col. 9 lines 9-21 teaches an oil in water emulsion comprising esters of aliphatic carboxylic acid such as palmitic acid.

Regarding claims 10 and 11, Niesel, col. 8 lines 65-68, teaches an oil in water emulsion comprising esters of aliphatic carboxylic acid with a mono or dihydric alcohol such as butanol.

Regarding claim 12, Scarborough, table 1 composition 4, teaches paraffinic wax present in the mixture in the amount of 2.5% and the hydrocarbon oil present in the amount of 1%.

It would have been obvious to one of ordinary skill in the art at the time of the invention to increase the amount of hydrocarbon oil present in the mixture to ensure all of the paraffinic wax in uniformly dissolved.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute some or all of ester as taught by Niesel in for the hydrocarbon oil

solvent as taught by Scarborough as evidenced by ICSC 1380 because Niesel, col. 8 lines 5-10, teaches esters of carboxylic acids are much more biodegradable and less toxic than mineral oils such as naphtha.

Further, Niesel, col. 9 lines 9-15, teaches the esters maybe derived from an aliphatic monocarboxylic acid of the formula R4COOH in which R4 is a straight or branched saturated or unsaturated hydrocarbyl group of 1-30 carbon atoms.

Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the amount of ester present in the mixture to ensure all of the paraffinic wax in uniformly dissolved.

Regarding claims 13 and 14, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the weight ratio and dry matter content of the hydrocarbon oil, the ester oil and the paraffin wax to obtain maximum water retention and waterproof properties of a material.

Regarding claim 15, Scarborough teaches dissolving the paraffin wax in a petroleum distillate solvent such as naphtha. This was introduced into a water solution and stirred vigorously. It would have been obvious to one of ordinary skill in the art at the time of the invention that the components can be added in any order to obtain the desired final product.

Regarding claim 16, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the weight deposited per unit area to ensure maximum water retention of a material while minimizing the amount of weight deposited per surface area.

Regarding claim 17, Scarborough, col. 5 lines 27-35, teaches composition which are normally solids can be dissolved in an organic solvent to form the necessary liquid for the formation of an emulsion with water.

It would have been obvious to one of ordinary skill in the art at the time of the invention if the wax was in solid (powered form) to disperse the wax in the solvent with heat to allow the wax to melt and uniformly disperse throughout the solvent.

Regarding claim 18, Scarborough, col. 5 lines 27-35, teaches composition which are normally solids can be dissolved in an organic solvent to form the necessary liquid for the formation of an emulsion with water.

It would have been obvious to one of ordinary skill in the art at the time of the invention that water could be partially substituted in for the solvent of the paraffin wax as long as the wax would be evenly dispersed throughout the mixture.

Regarding claim 19, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize to optimize the weight ratio content of the

hydrocarbon oil, the ester oil and the paraffin wax to obtain maximum water retention and waterproof properties of a material.

Response to Arguments

Applicant's arguments filed 6/22/2009 have been fully considered but they are not persuasive.

Applicant argues the references do not teach or suggest an emulsion with a discontinuous phase comprised of paraffin wax and at least one oil as recited in claim 1 or the method of forming this phase as recited in claim 15.

Scarborough teaches the discontinuous phase comprises droplets of a non volatile organic water repellant composition. Scarborough, col. 5 lines 45-55, teach incorporating paraffin wax into the discontinuous phase. Further, Scarborough, col. 6 lines 35-40, teaches the non volatile organic water repellant composition may require a small amount of volatile organic solvent such as naphtha so the emulsion can be formed.

Further, Scarborough teaches the non volatile organic water repellant composition which are normally solids can be dissolved in an organic solvent to form the necessary liquid for the formation of the emulsion. Therefore, paraffin wax can be dissolved in an organic solvent such as naphtha to obtain the discontinuous phase of the emulsion.

Further, Scarborough, col. 7 lines 21-47, teaches the non volatile organic water repellant composition is first formed so that it is a liquid composition. Therefore, the paraffin wax is dissolved into an organic solvent to form a liquid composition. Then the non volatile organic water repellant composition is added to water to vigorously stirred.

Applicant further argues the composition recited in claim 1, the discontinuous phase comprises both an oil and paraffin wax and these components are not combined prior to forming an emulsion as described in Scarborough.

Yet, the organic solvent such as naphtha can be used to dissolve the paraffin wax therefore these 2 components are combined prior to forming the emulsion. Further, it would (()) to combine all the non aqueous components together before forming the emulsion to ensure all the components are equally dispersed prior to forming the emulsion.

Niesin teaches incorporating an oil (component c of the claims).
Niesen teaches the synthetic esters have hydrophobic properties which can further contribute to the water retention in the Scarborough composition.

Further, the ICSC 1380 further explains the properties of naphtha which are the same properties as the naphtha as used in the Scarborough reference.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEFANIE COHEN whose telephone number is (571)270-5836. The examiner can normally be reached on Monday through Thursday 9:3am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 5712721234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stefanie Cohen 10/24/2009

SC

October 25, 2009

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793